The
VETERINARY RECORD
Founded by William Hunting, F.R.C.V.S., in 1888
7, MANSFIELD STREET, PORTLAND PLACE, LONDON, W.1. MUSEUM 6541
No. 15 APRIL 14th, 1956 Vol. 68
Registered for Transmission as a Newspaper *Price 2s. post free*

The Food and Agriculture Organisation of the United Nations

BY
SIR THOMAS DALLING
Animal Production Branch, Agriculture Division FAO, Rome

IT is generally agreed that the world needs more food of all kinds. One of the most deficient items in the diet of many millions of the world's inhabitants is protein of animal origin. We veterinarians have an important part to play in meeting this requirement, even partially. In this short article, some reference will be made to the general, over-all work of the Food and Agriculture Organisation of the United Nations, but prominence will be given to animal production, with special emphasis on animal health. In the past 10 years, the world's human population is estimated to have been increased by 200,000,000 and it is further estimated that, for some years to come, the increase will continue at the rate of at least 1·4 per cent. per year. It can readily be appreciated how great is the need for more food to meet the requirements not only of this ever-increasing human population but also to raise the standard of living, which is at such a low level in many parts of the world.

The Food and Agriculture Organisation of the United Nations grew out of a United Nations Conference on Food and Agriculture, held at Hot Springs, Virginia, U.S.A., in May, 1943, when 44 nations agreed to work together to secure a lasting peace and freedom from want. They agreed that international co-operative effort was needed to raise the standards of living of the undernourished two-thirds of the world's population ; and they considered that farmers of the world could produce enough if they were able to make full use of modern facilities and methods, and that full work for all could be provided by increased production and efficient distribution.

It was in Quebec, Canada, in October, 1944, that 42 Governments formed FAO, the first United Nations Agency to be established. To-day, in the 11th year of its existence, FAO has 72 Member countries.

The aims of FAO, as laid down at Quebec, are : (1) to help nations to raise the standard of living ; (2) to improve nutrition of the peoples of all countries ; (3) to increase the efficiency of farming, forestry and fisheries ; (4) to better the conditions of rural people ; and (5) through all these means, to widen the opportunity of all people for productive work.

FAO is an autonomous, independent body ; it is, however, a Member of the United Nations group of specialised agencies. Its "governing body" is the FAO Conference, consisting of representatives of all Member countries, which meets biannually when policy is decided, programmes of work are examined, and funds to be provided by the Member countries are decided.

There are, in reality, two sources of income : funds for the work carried out under the regular programme and which are provided directly to FAO by Member countries, and funds for the Expanded Technical Assistance Programme (ETAP), which are allocated to FAO by the Technical Assistance Board from a central fund, to which nations make contributions. Although there is a Regular Programme and an Expanded Technical Assistance Programme operated by FAO, for practical purposes the two are merged into one.

FAO headquarters are in Rome ; in addition, there are regional offices in Washington (U.S.A.) for North America, in Cairo for the Near East, in Bangkok for the Far East, and in Rio de Janeiro, Mexico City and Santiago for Latin America.

FAO consists of five Divisions : Agriculture, Economics, Fisheries, Forestry and Nutrition (human). A Director-General is responsible for all FAO activities and each Division has a Director, responsible to the Director-General. There is also a Central Administrative Unit. Divisions are broken up into Branches, each with a Chief. Thus, the Agriculture Division has five branches : Animal Production, Agricultural Institutions and Services, Land and Water Use, Plant Production and Rural Welfare.

It is with the Animal Production Branch that we are concerned. The Branch consists of Sections which deal with specific subjects. At the present time the Sections are Animal Health, Pasture Management, Animal Nutrition, Poultry Husbandry, Animal Breeding and

Milk and Dairy Work. Authority has now been given to add a further Section—on Sheep and Wool Production.

Animal Production is an extensive subject, and animal health is fully recognised as one of the outstanding controlling influences ; therefore, much attention is given to the subject, not only in its narrower sense but also in so far as it has a bearing on animal production. The Headquarters' establishment, at the present time, of veterinary personnel concerned with animal health, is six veterinarians, and in the Animal Production Branch, of a total of 12 Professional Officers, seven are veterinarians.

The important work carried out by the Branch is to assist countries, from which requests come, by supplying technical assistance. Such technical assistance may be in the form of advice on the many aspects of increasing animal production by letter or by consultation, either at Headquarters or in the countries themselves ; by appointing veterinarians and other technicians to assignments in the countries concerned ; by convening and running meetings of a regional or world-wide character on a subject or group of subjects either as a purely FAO concern or in collaboration with one or more other international organisations ; by convening and running training centres, in which representatives from countries, usually within a region, participate ; and by the provision of Fellowships for selected personnel from countries in which FAO personnel are carrying out assignments, to enable training and experience to be acquired in some other country or countries.

To illustrate some of these activities, examples may be given.

Headquarters' Activities

A mass of correspondence has to be dealt with, replying to enquiries for information from countries all over the world on problems of animal health. While the veterinarians at Headquarters often are in a position to supply that information from their own knowledge and experience, it is often necessary to consult those working on the subject in question. By one means or another, the most recent information is obtained and is made available to the requesting authority.

The Headquarters' staff service the FAO personnel in the various assignments throughout the world, replying to points raised in their monthly reports and suggesting lines of development for their work. We are also responsible for the recruitment of personnel, their briefing, and for the final reports, prepared from the reports they write, to be sent to Governments on completion of assignments. We also keep in touch with the holders of Fellowships and try to see that the training they receive is on the lines most suitable and profitable for application in their own countries. Headquarters' staff is responsible for all the arrangements for FAO meetings, training centres, and conferences throughout the world. While most of this work can be carried out from Rome, visits to countries become essential not only to attend meetings and participate fully in (and run) training centres, but also to assist FAO veterinarians with their assignments.

Assignments in Animal Health

Following upon requests for technical assistance from a country and agreement that it should be provided, suitable veterinary or other personnel have to be found for assignment for that special work. The requests vary considerably and depend largely upon the state of development of the country. In some Member countries there is practically no veterinary service ; advice and assistance have to be given to lay the foundations of a veterinary service, to survey the important conditions associated with deaths of livestock and underdevelopment of animals, and to inaugurate schemes for their prevention. Then, again, it may be that technical assistance is required on the control of one, or a few, specific diseases. In some Far-East countries, for example, the incidence of rinderpest has been high. Technical assistance given by FAO has played a considerable part in controlling the disease and actually in eradicating it from one country. In the control of rinderpest, stress is laid on the value and use of living attenuated virus vaccines. For several reasons, the vaccines have to be prepared in the countries in which they will be used. FAO veterinarians for such projects are specially selected for their knowledge of the preparation of such vaccines. Decisions, following field tests, have to be made on the actual type of the vaccine, *e.g.*, the goat-adapted, the rabbit-adapted or the avianised preparation. A laboratory has to be set up with facilities and equipment for vaccine production. FAO often supplies the major pieces of equipment, especially that used for freeze-drying work on a large scale, without which much of the control work could only be imperfectly carried out. Personnel have to be instructed in all the details of the vaccine production. Plans have to be suggested for the provision and economic use of vaccination teams, and field arrangements have to be made for proper storage of vaccine. National veterinarians, when present in a country, have to be instructed in the many details concerned with a vaccination plan, and lay vaccinators have to be properly trained. All this takes much time and the year of the FAO veterinarian's assignment soon passes, sometimes without there being much to show for his work. He has, however, laid the foundations, and very often the Government of the particular country requests extension of his assignment. By the second year, progress can be seen.

Again, with the control of rinderpest now well in hand in some parts of the world, more interest is being taken in other diseases which limit animal production. Foot-and-mouth disease, although not regarded with such dread as in other parts of the world, notably Europe, Great Britain and North America, causes loss in agriculture indirectly in countries in which all or many of the agricultural operations are carried on with cattle and buffaloes. The inability of the animal to work on the land, because of an attack of foot-and-mouth disease, at a critical time, may mean disaster to an individual farmer and economic loss of agricultural products to a country. The export trade in livestock and livestock products which some countries are endeavouring to develop may be seriously affected by the presence of foot-and-mouth disease ; countries free from the disease will certainly hesitate to import livestock or their products unless some definite assurance

can be given that the risk of introducing the infective agent is negligible. In many countries, especially in those in which the disease is endemic, an out-and-out slaughter policy is simply unworkable and, moreover, is economically impossible. Interest, in such countries, is being taken in vaccination as a method of control. FAO is assisting such countries, on request, by the provision of veterinarians to assist in evolving plans of vaccination campaigns. We also, in some countries, provide, partially or wholly, equipment for vaccine production and either give or arrange for instruction in vaccine production.

Parasitism is probably the cause of more economic loss in livestock production than any other condition. FAO veterinarians, specially selected for their knowledge of the control of parasites and parasitism, are in much demand by Member countries in all parts of the world. Following surveys of the important parasites and the damage to be attributed to their actions, plans are made for their control, instruction is given to veterinarians and others in the country for the recognition of the parasites and the specific measures to be adopted to lessen the load. Laboratory techniques are demonstrated, and in the absence of the necessary equipment or medicaments, or because of the inability of a country to find the funds for such a purpose, FAO supplies sufficient amounts to enable a beginning to be made.

Many countries, which previously had taken little or no interest in the occurrence of such diseases as bovine tuberculosis, bovine brucellosis and bovine mastitis, are recognising that they are important causes of lowered animal production. Requests are received for technical assistance in their control, and veterinarians are assigned by FAO to countries to render the necessary help.

Diseases such as anthrax and black quarter, are also receiving more attention, and training is being given in the preparation and use of vaccines produced by modern techniques, for their control.

Again, insect-transmitted and tick-borne diseases are well recognised as causes of much lowered animal production and interest is being shown in their control by Governments, who request and obtain technical assistance from FAO.

Poultry, as a source of animal protein, are recognised as important throughout the world and improvements in local types and strains are taking place. The limiting factors of disease are well understood and have been amply demonstrated. FAO technical assistance is sought and given in the control of the major diseases of poultry. The part played by FAO in the control of Newcastle disease is noteworthy. The introduction of vaccination in several countries, and the instruction given by FAO veterinarians in the production of the necessary vaccines have been followed by results such that egg and poultry-meat production have been completely revolutionised. Other diseases of poultry, such as pullorum disease, fowl pox and respiratory diseases are also receiving much attention.

The pig industry in various parts of the world is being revived, and here again health matters are receiving attention. Emphasis is being given to the control of epidemics, such as swine fever, by vaccination, instruction being given in the preparation of vaccines, according to the conditions and requirements of the individual countries.

FAO also encourages research into better methods for the control of livestock diseases. While the Organisation does not actually participate in research work, support is given by the provision of technical assistance. Examples are the development of a new vaccine to control haemorrhagic septicaemia in cattle and buffaloes, and the testing of vaccines for the control of *Br. melitensis* in goats and sheep.

Countries in many parts of the world are now showing concern about the conditions under which animals are slaughtered for human consumption and about meat inspection. Technical assistance and advice in these subjects falls within the province of the Animal Production Branch of FAO and is dealt with by the Animal Health Section. This means the recruitment of personnel, veterinary and others, familiar with abattoir construction, slaughtering techniques, meat inspection, conservation of meat and meat products, and the disposal of waste and condemned material from abattoirs.

With the introduction of artificial insemination as a breeding technique, the movement has developed rapidly and countries in almost all parts of the world are showing interest in it. Many are requesting technical assistance. FAO is playing an important part in instructing personnel in the work. Insistence, however, is made, so far as possible, in sexual health control, as an essential factor in all artificial insemination work. It is realised that this is an extensive subject and much effort is being put into it by FAO so that it may be developed along satisfactory and efficient lines.

The more we pursue our work on Animal Health, the more do we realise the great and immediate need for consideration to be given to veterinary education, especially in countries where none exists or where, in our view, it is not being carried out along lines which will produce veterinarians of the necessary calibre and with the training suitable and necessary for the requirements of the country. This is a big subject, and requires careful attention. FAO veterinarians in the field and from Headquarters are endeavouring to guide respective veterinary schools in this matter. It is felt that even more attention will have to be given in the near future to veterinary education in different parts of the world, in order to assess the type and standard of the required education to fit veterinarians for the many duties required of them.

Regional and World-Wide Meetings

These are convened from time to time to enable discussions to be held among representatives of a group of countries or of countries throughout the world. Before such a meeting can take place it is necessary to have a request for holding it from a country or group of countries and to arrange that a country will act as host to the meeting. Such meetings take many months to arrange because each of the respective countries has to be contacted, background papers have to be prepared, and an agreed agenda has to be produced. Sometimes such meetings concern all aspects of the livestock industry in a region, *e.g.*, the meetings which have been held in Latin America on livestock production, and the meeting held in Brisbane (Australia) in 1955 on livestock production under tropical and sub-tropical conditions. There is an animal health section in such meetings, which deals with the various diseases and

conditions of health which interfere with animal production. Comprehensive reports are prepared immediately after the meetings and are available not only to the countries concerned but to all countries throughout the world. One of the results of such meetings is the setting-up of a group of observers, one from each of the interested countries, who review the position from time to time and who advise on the formation of small *ad hoc* committees to deal with any specific subject. In Latin America, for example, foot-and-mouth disease control is one of the subjects.

Regional meetings have also resulted in the formation of Commissions. An example is the European Commission for the Control of Foot-and-Mouth Disease. Early in 1956, a regional meeting of Near East countries is to be held from which it is expected that a Near East Commission of Animal Health may be set up. One of the objectives of FAO in the control of animal diseases of a contagious nature is to develop regional organisations and when they are working smoothly to link them together into a world-wide effort. This, of course, will take some years to accomplish, but, as explained, a beginning has been made and in due course the results will be seen.

Another example of a regional meeting is that on veterinary education in India, which was attended by representatives of the various Indian veterinary colleges and of delegations from other Far East countries. At the request of the Government of India, FAO arranged and financed a visit to India by six veterinary educationalists from different parts of the world. They visited a number of the Indian veterinary colleges and attended the meeting where they set out their views on improvements which would ensure a more satisfactory system of veterinary education in that part of the world.

Arrangements have been made to hold two world-wide meetings—one in Paris on the effects of quarantine on the importation and exportation of livestock, with special reference to the spread of foot-and-mouth disease, and one in Rome on tick-borne diseases of livestock. These meetings will be attended by representatives of interested countries throughout the world and reports will be issued for general distribution.

Training Centres

Much importance is attached to instruction in recent methods of disease control, and FAO convenes and arranges training centres for this purpose in different regions of the world. The diseases dealt with are those prevalent in the region in which the Training Centre is held. An example is the Training Centre on the preparation and use of biological products in the diagnosis, and preventive and curative treatment, of diseases which are found in the Near East. This Training Centre was held in Cairo in 1955, the representatives of the different countries being those engaged in the production and use of biological products. For such a Training Centre, FAO takes over part of a laboratory and arranges for experts from different countries to attend and give demonstrations and talks. The Centre is run largely on practical lines, the participants carrying out many of the techniques themselves. The expenses incurred are borne by FAO. A Training Centre of a similar type was held in India in 1953.

Fellowships

FAO provides many Fellowships, which enable selected personnel from a country in which FAO experts are working to spend some time, usually a year, abroad, to be specially trained and to gain experience in some special subject or group of subjects. The object is to fit these veterinarians to continue the work already begun by the experts and to instruct local personnel. Up to 1955, 75 Fellowships were awarded to veterinarians from 23 countries.

Collaboration with Other Organisations

While FAO carries out many of the activities mentioned above, we also collaborate to a considerable extent with other international organisations interested in animal health. There is an agreement with the Office International des Epizooties whereby that organisation acts in the capacity of an advisory body to FAO, and FAO acts as an "action" body, carrying out, as far as practicable, the recommendations made by OIE. In addition, OIE is consulted on the holding of meetings, regional or world-wide, and is always represented at them. FAO always has representatives who attend meetings convened by OIE. At the present time, there is in course of preparation, a scheme for the world-wide reporting of diseases of animals and dissemination of the information. The scheme will be operated jointly by FAO and OIE.

Close liaison is maintained with the World Health Organisation, and particularly with the section which deals with zoonoses, *i.e.*, diseases transmissible between animals and man. Joint meetings are held and reports are prepared and published. There is, for example, a joint brucellosis group, which meets periodically and reviews recent developments, laboratory and field, on the subject. Under the auspices of FAO and WHO, reference laboratories on brucellosis have been set up in different countries, whereby workers on the subject can obtain assistance in identifying strains of *brucella*, and in other aspects of the subject. It is proposed now that similar types of reference laboratories be set up to deal with leptospirosis.

In the past, there has been very close co-operation between FAO and the Organisation for European Economic Co-operation (OEEC). A special Working Party on Animal Health was set up and a member of the FAO staff was chairman during the entire life of the Working Party. OEEC, from time to time, arranges seminars and workshops on specific diseases of livestock or groups of diseases and FAO is always represented, the representative often taking a leading part.

This will give readers some information on the many activities of the veterinary section of the Animal Production Branch of the Agriculture Division of FAO. It will be seen that the work is varied, extensive and world-wide, assistance being given to countries which need it and make the necessary requests. It will also be seen how dependent we are on the assistance given by veterinarians who accept assignments in different parts of the world and, therefore, on the veterinary profession in countries which are in a position to link up with us by supplying the necessary veterinary personnel.

First Report of the Joint FAO/WHO Expert Committee on Meat Hygiene

We are indebted to a correspondent, who has specialised in meat hygiene, for the following review of this Report. Readers will note with satisfaction that a majority of this expert international committee has recommended that meat inspection should, wherever possible, be in the hands of the profession—a view long held, and pressed upon successive Governments, by the B.V.A.

Our correspondent writes:—

This Report contains the deliberations of a committee of medical and veterinary experts appointed by the World Health Organisation and the Food and Agriculture Organisation of the United Nations who considered various matters concerned with meat hygiene, including the problem of meat-borne diseases, abattoirs, meat inspection, transport of meat, and education and training of meat inspectors. There is much to interest the public health officer in this Report, which adopts a realistic attitude. As the Committee rightly states, standards of meat inspection which are applicable to advanced countries cannot be applied to undeveloped countries, which have a relatively poor economic status and in which there is a lack of education of the public generally. The Committee, therefore, recommends that the basic principles of meat hygiene should be strongly supported by education of the public, and that in the measures recommended, the first steps taken should be towards eradicating the more dangerous of the animal diseases transmissible to man.

Dealing with abattoir hygiene the Committee points out that there is a considerable risk of a " build-up " within the abattoir of enteric pathogens introduced either by animal or human carriers (the serious outbreak of human salmonellosis emanating from an abattoir in Sweden in the summer of 1953 confirms this), and stresses the hygienic importance of separating clean and unclean operations in the abattoir. It is recommended that this be done by planning for the unclean products, which include the live animals, hides and skins, stomachs, intestines and feet, to proceed in one direction, while the clean products, *i.e.*, the carcases and organs, proceed in another. It is also recommended that strong fencing should be erected around slaughterhouses to keep out trespassing animals, particularly dogs, and although this observation may seem superfluous in relation to European countries, it is of the greatest hygienic importance in slaughterhouses of the Middle and Far East where hydatidosis is a serious economic and public health problem.

The Committee states that *ante-mortem* veterinary inspection of animals intended for slaughter should be regarded as an essential procedure in any efficient meat inspection service, and points out the considerable value of this procedure as a means of detecting animals which are in the early stage of a septicaemic infection. Methods of slaughter are mentioned, including slaughter by electrical means and anaesthetisation by CO^2, but the Committee is silent on the question of the humaneness of the Jewish and Mohammedan methods of slaughter. This is a rather regrettable omission, as an expression of opinion on this much debated question by the acknowledged experts who constitute the Committee would have been welcomed by many people. They are, however, right in criticising the practice of inflation of carcases, a procedure which is almost universal in the Middle and Far Eastern countries.

Dealing with emergency slaughter the Committee states that no carcase of an emergency-slaughtered animal should be passed for food until it has been subjected to a bacteriological examination; and included in the Report is a description of the technique by which such an examination is conducted in the veterinary state laboratories in Denmark. The justification for routine examination of meat handlers is also discussed, and the opinion is expressed that regular bacteriological examinations will not ensure that the personnel do not harbour dangerous pathogens. Consideration is also given to the question of the education and training of meat inspectors, and the majority of the Committee have expressed the view that meat hygiene should be entrusted as much as possible to the veterinarian, who should be employed in a whole-time capacity with the lay meat inspector operating under his control.

There are eight annexes to the Report which include much useful information, including the characteristics of bacterial food poisonings, designs for abattoirs of various sizes, meat inspection techniques, and methods by which meat containing trichinae or cysticerci may be rendered safe for human food.

A CALL FOR MORE RESEARCH

It is reported in the agricultural press that the N.F.U. is to press the Ministry of Agriculture to increase—and expedite, if possible—research work on *Vibrio foetus*.

This decision was taken by the diseases of animals committee " in view of the apparent lack of information as to the extent of the possible danger of spread of infection among stock bred by A.I."

INTERNATIONAL FRIENDSHIP

We continue to receive from veterinary surgeons overseas—notably from France—requests for holiday exchanges between their families and the families of British veterinarians. Our readers have been generous in offering hospitality, but it is hoped that this will be still further increased as more and more requests are being made. We believe there are many who may agree that such contacts between individuals are not in their way less valuable—and are probably more enduring—than contacts publicly made between governments or politicians. At present there are more than 20 enquiries from France alone, and readers are invited to ask for details. Letters should be addressed to the General Secretary of the B.V.A.

Three-year History of a Case of Eosinophilic Myositis

BY
MARY CLARE
West Moors, Dorset

FOLLOWING Mr. J. C. Whitney's recent article on eosinophilic myositis in the dog the following report may be of some value, the patient being the writer's own pet Alsatian dog which has been under constant observation and treatment from the commencement of the disease until the present date. The dog, which is still alive and now four years old, has been suffering from eosinophilic myositis for at least the past three years, although it must be remembered that the disease was not diagnosed as such until comparatively recently.

In 1952, when the animal was approximately one year of age, and suffering from a severe dog bite in the left temporal region concurrent with hard pad infection, symptoms occurred which later were identified as those of eosinophilic myositis. These initial symptoms were extreme proptosis with great swelling in the temporal and masseter regions, and also of the soft palate. These symptoms were at first, rather naturally, attributed to the injury to the forehead. The dog was treated with antibiotics, as well as with hard pad serum, and apparently made a complete recovery, although some wastage of the temporal muscles was noticeable.

During 1953 the dog suffered a number of attacks, showing the typical head condition, and each lasted from two to three weeks. The intervals between the attacks were of six or seven weeks' duration. At this time some measure of polyuria was also observed and this has continued to be present ever since. When uncomplicated by other factors, *i.e.*, the early infection of hard pad disease, the dog's temperature has remained normal throughout the whole progress of eosinophilic myositis.

In July, 1953, the muscles of the fore limbs were affected for the first time. They became swollen to approximately double their normal size and were extremely rigid and unyielding to the touch. This condition caused the dog considerable discomfort and definite pain on movement. During this stage marked splenomegaly was observed and has since persisted.

In December of the same year the dog was taken to the Royal Veterinary College for examination and the first blood counts were taken. These showed very marked leukaemia but the eosinophil count was normal, varying from 0 per cent. to 2 per cent. It must be stated that at this time the dog had just recovered from an attack of pneumonia and enteritis, which conditions were not considered to have been directly associated with the presence of eosinophilic myositis but were believed to have been due to lowered resistance.

By this time wastage of the temporal muscles was complete, but the dog experienced no difficulty in mastication excepting during the periodic attacks. Also, although the swellings caused definite discomfort, even while at their zenith they did not appear to cause actual pain. It was remarked that the head swellings were always bilateral but usually not symmetrical.

During 1954, apart from the regular periodic attacks affecting both head and fore limbs, the dog appeared to be in generally improved health. At this time full doses of chloramphenicol were administered when the symptoms appeared and this seemed to decrease very slightly the severity of the attacks.

The use of ACTH

In July, 1955, after the publication of his letter on the disease, Mr. H. P. Harding, of the University of Liverpool, was contacted and further blood tests were carried out. The eosinophil count was now 21 per cent. and in one month's time had increased to 39 per cent., which latter count was after the first course of ACTH.

Upon Mr. Harding's suggestion, ACTH* was used in a dosage of 20 I.U. injected intramuscularly every 48 hours for eight days. This treatment very rapidly and spectacularly relieved the symptoms but the blood picture remained the same. Subsequently, signs of swelling were observed every three or four weeks, but these subsided, without attaining their usual extent, within two or three days of the use of ACTH (initial dose 30 I.U., followed by 20 I.U. daily for two or three days).

At this time the dog's general physical condition appeared to be good, or relatively so, and the animal was competing successfully in obedience tests and working trials, apart from difficulty in accomplishing the six-foot-high jump which was presumably due to damage to the muscles of the fore limbs. Splenomegaly was marked but appeared to cause no discomfort, and there was no difficulty in mastication. It must be added that during the whole course of the disease up to this time no inappetence was observed and, in fact, the dog ate well even when swelling rendered swallowing mechanically difficult.

As a point of interest, in August, 1955, cortisone was used during an attack in place of ACTH, but this appeared to have little or no effect on the symptoms in marked contrast to the effect of ACTH.

In November, 1955, the dog became acutely ill with markedly different symptoms to those shown hitherto. The symptoms, which were assumed to be due to eosinophilic myositis, were excessive salivation, gulping, considerable pain, and vomiting of food and mucus. During these attacks which lasted, in the acute stage, up to 12 hours, the dog was unable to lie down. Injections of ACTH appeared to have no immediate remedial effect and sedative drugs had to be administered in sufficient quantity to make the dog semi-conscious and able to rest. Radiographs

* Actos.

carried out during this stage showed marked spasm of gastric sphincters and great dilatation of the oesophagus, a barium meal remaining in the oesophagus up to one and a half hours after administration.

No attack of this kind lasted in the acute stage for more than 12 hours, but on each occasion it was found necessary to administer sedatives as well as ACTH before any improvement was noted. The condition appeared to be acute inflammation of the oesophagus; and the pain and distress occasioned by the earlier severe attacks were so intense that destruction on humane grounds was considered.

These attacks occurred at irregular but fairly frequent intervals, and with progressively decreasing severity for a period of about eight weeks. On two occasions acute gastric tympany, although of brief duration, was a very marked symptom. During this time, and to date, no swelling of the head had been in evidence, but in January some swelling of the fore limbs occurred.

At the time of writing (February, 1956) the dog is still suffering, at intervals, attacks of fairly slight discomfort, accompanied by excessive salivation and "gulping," but is able to retain food when fed in reasonably small quantities at a time. However, atropine metho-nitrate,* administered before meals, appears to obviate these symptoms to a large extent. Generally speaking, physical condition is good and the animal is extremely cheerful. The eosinophil count it now only 19 per cent.

In conclusion, from observations of this case, the following points appear to be of significance:—

(a) The eosinophil count was normal until at least *one year* after the first onset of the symptoms.

(b) The use of ACTH appeared to have no permanent curative effect upon the disease but had a marked effect in alleviating the muscle swellings.

(c) For some reason cortisone apparently had little or no effect upon the symptoms in marked contrast to ACTH.

(d) The more recent symptoms, *i.e.*, choking, retention of food in the oesophagus, etc., if indeed due to the disease in question, appear to indicate either that eosinophilic myositis attacks the muscles of the oesophagus and possibly the stomach, or that it causes damage to the associated nerves.

(e) ACTH had no spectacular curative effect on these latter symptoms compared with its effect on the earlier head and limb swellings. It was impossible to prove whether the ACTH or the sedatives finally alleviated the condition, but it appeared that ACTH alone was definitely insufficient.

(f) The onset of the disease was apparently concurrent with the presence of another disease (hard pad) and also a fairly severe injury in the temporal region (dog bite). Was this merely coincidence?

(g) From knowledge of this case and of the dog's breeding and history it would seem that the disease is neither contagious nor hereditary.

Acknowledgment.—I am most grateful to Mr. G. C. Knight and to Mr. H. P. Harding for their advice and their interest in the treatment of this case.

* Eumydrin.

Veterinary Education in N. America

BY

J. B. POLDING

Faculty of Veterinary Science, Makerere College

Part II—Veterinary Courses

1.—General Plan of Education Leading to Degree of Doctor of Veterinary Medicine

For convenience of description it is possible to divide the education requirements for the D.V.M. into four phases which, although they vary in detail between colleges, are otherwise broadly uniform throughout the country, *viz*:—

(i) the pre-collegiate or high-school period;
(ii) the pre-professional, or pre-veterinary period;
(iii) the pre-clinical period;
(iv) the clinical period.

Each of (ii) to (iv) normally requires two years' study in colleges, whilst a youth normally spends the four years from 14 to 18 at high school.

2.—College Entrance Requirements

Candidates for the D.V.M. are required to spend two years of pre-veterinary education in one of the State colleges which offers courses leading to the D.V.M., and they sometimes spend three. Exceptionally, they may get this education wholly or partially at some other college, provided they are able to reach the required standard in appropriate courses there. Candidates for entry to such colleges are required to have a satisfactory level of education in an approved high school, and while a very rigid pattern of high-school education does not seem to be exacted it is perhaps safe to say that the requirements are generally as follows:—

Academic.—A satisfactory proficiency in English (reading, writing and speaking), mathematics, social studies, general science and languages. Some knowledge of the fine arts and other subjects is viewed with approbation.

Personal.—A sincere interest in higher education, adequate intellectual, physical and social maturity, effective study and work habits.

The method of assessing adequacy in these matters is peculiar, and is as perplexing to the uninitiated as the equivalent method in the United Kingdom appears to be to Americans. Suffice it to say that American educationalists have contrived to express the weight of the courses in various subjects as a formula, which, though similar in principle everywhere, differs bewilderingly in interpretative detail from place to place. In effect the weight of any course is expressed in "units" or "credits" and a candidate for admission to a curriculum has to show that he has earned so many units during the qualifying period. That is, to show he has attended those courses, that each is of a certain weight and that altogether they total a certain minimum required total weight: so much for what he has attended. The student's actual performance in these courses is assessed from time to time, less by formal end-of-the-year examination, than by week-to-week test, and

this grading is recorded on a personal certified transcript, which is offered by the candidate to the college when applying for entrance. The college may require marginal students to take additional courses in the first two years at college.

3.—Pre-veterinary Requirements

Many Americans will concede that the high schools of the U.S.A. fall short of completing a student's general education and, while in the United Kingdom specialised education is being step by step pushed farther back into the schools (*e.g.*, Part I degree work or work exempting therefrom), in America, general education is creeping forward into the university, where it adulterates specialised instruction. Pre-veterinary education, therefore, takes two years, and far from being specialised it contains much that is designed to supplement the inadequacies of the high school (*e.g.*, English, the humanities, mathematics), whilst a number of electives are expected (*e.g.*, social science, foreign languages, philosophy, psychology, fine arts, literature and so on). During the same two years, students read their basic sciences (physics, biology and chemistry), and some schools prescribe courses in animal subjects (*e.g.*, genetics, animal, dairy and poultry husbandry, nutrition, and so on); at this time also, and in these cases, these years seem to be over-loaded indeed. Especially is this so as concurrent military training and physical culture are also obligatory, while many students are working their way through college. It seems almost certain, therefore, that the basic sciences cannot be studied in the same depth as they are in the United Kingdom, when taken at High Certificate or Intermediate level, and when these subjects are further developed, as they are, for one year in the B.Vet.Med. Pre-clinical Part 1.

4.—Pre-clinical Requirements

The Pre-clinical courses occupy a period of two years and in content are substantially the same as for the B.Vet.Med. Pre-clinical Part II, *i.e.*, anatomy, histology, embryology, physiology, biochemistry, pharmacology, microbiology, pathology and parasitology. There is no rigid uniformity between schools in which year any particular course may fall, but in general, anatomy (except for surgical anatomy taken in the clinical years) and physiology with allied subjects are in the first year, though physiology may overlap the second. The remaining subjects fall mainly in the second year. However, in its widest applied sense, pathology carries right through the clinical years in the form of clinical pathology. As already stated, animal subjects may or may not occur in these years; in one school at least they even occur in the clinical years.

5.—Clinical Requirements

Clinical studies take two complete years, throughout which time the whole range of subjects common to most veterinary clinical courses are taught. There is no uniformity between schools as to which subjects occur in which year, and if it is possible to generalise at all, the schools seem to try to get as much of the theory as possible into the semi-final year and as much practical work in the clinic into the final. Nevertheless, practical clinical work runs through both years conducted by mixed teams of about two semi-finalists and about two finalists. These teams rotate weekly through the several divisions of the clinics.

Methods of Teaching

Veterinary training in the United States differs from that in the United Kingdom in two principal ways. Firstly it is intensely practical and consequently it instils great technical ability. Secondly, teaching is achieved largely through student recitations.

The practical approach is noticeable in the long hours spent by students in laboratories working painstakingly through elaborate laboratory manuals in splendidly equipped class-rooms. In almost all subjects, *e.g.*, pharmacology, physiology and bacteriology, each student as a member of a small team himself performs most of the classical exercises of that subject. As a rule, lectures, which are strictly limited to 50 minutes duration, are an introduction to the practical which follows immediately and in which the student performs the experiments illustrating or proving the contentions of the lecture. As regards the clinical years, mention has already been made of the enormous activities of the large and small animal and ambulatory clinics. From the point of view of turning out technically skilful clinicians this aspect of American training is admirable but it is felt that the course does not go beyond this and that it is only at post-graduate level that students are given the opportunity and encouragement to become imaginative, constructive thinkers.

The recitational method of learning is conspicuous throughout these schools and appears to be wholly beneficial though with the slower students it is tedious and exacting in the extreme to the teacher. This method can perhaps be best illustrated by a short description of the teaching of pathology in Cornell Veterinary School. The lecture period is used to describe the topic of the day more or less in the classical manner. The class then repairs to the laboratory where slides and gross specimens are set out illustrating the same topic from several angles and from this point onwards the students take over the talking and describe what there is to be seen. If one student fails to describe everything to the teacher's satisfaction more opinions are evoked until between several recitations a true picture of the condition has been conjured up. As the picture is built up from the actual morbid specimen the teacher by question and hint directs the students to relate the picture to the theory of the lecture period.

Another illustration of the same system is to be found in the clinical conferences, so favoured in America, sometimes known as dry clinics, where all students and staff gather together and a tutor will partially describe a case previously seen by him. The audience then volunteers a number of tentative diagnoses, cross-examines the tutor, and by eliciting further information contrives to whittle down the possible conditions to a firm diagnosis. Similar

"wet" conferences are also held on actual sick animals. The value of the former lies in the fact that all available data such as X-ray, blood examination results, and urine analysis are already available; that of the latter is that the members of the audience can actually examine the animal themselves. This principle of making the student recite his observations is used also with the teams operating the clinics, but the conference has the advantage of eliciting, so that all may hear, all possible ideas and of tracing the trends of thought, not only of many students, but of the staff and even visitors as well, all of whom are equally in the dark. The most admirable part of this system is that the teaching is in the reverse direction from the orthodox; the student himself works backwards from what he can see, when he has learnt to see it, to what he may have been told or read about. And this is, after all, what he will have to do in after life.

Another interesting trend is to be seen in the teaching of anatomy. It seems possible that the mantles of Sisson and Grossman are being assumed by some of their pupils, and perhaps a tradition of interest in anatomy is forming in the U.S.A., for the contemporary younger anatomists are experimenting with methods of teaching as well as preparing text-books and creating live departments. These experiments are aimed, firstly, at infusing interest and life into this dull subject, and secondly, perhaps because anatomy time is apt to be the traditional prey of persons looking for extra hours to teach the newer subjects, they aim by the development of better methods to teach more in less time.

Some methods of achieving the former aim are a greater emphasis on the linkage between anatomy and related subjects, *e.g.*, physiology, pathology and surgery, the teaching of the subjects as functionally as possible, the teaching of live anatomy (live large animals are kept permanently in anatomy departments for the purpose), the use of visual aids such as two- or three-dimensional projections, X-ray films, microslide projectors, corrosian technique specimens, varnished and coloured dissections, models and so on.

As to the latter aim, experiments have been directed towards teaching histology simultaneously with gross anatomy, and towards the simplification of student dissections by use of laboratory manuals and condensation of comparative dissections. To this end type animals have almost everywhere either been changed from the horse to the dog, which can be thoroughly dissected with greater ease and speed than the horse, or the type animal has been abolished altogether. In one school students begin with the fowl—a relatively easy and logical extension from the biology subjects—proceed to the dog, and with their newly acquired skill rapidly complete the other animals later. In another school, one half year is spent dissecting the horse, cow, pig, and dog simultaneously by eight students, two to each animal. At the end of each session each pair demonstrate their work to all other pairs in turn. At the beginning of the next class all pairs move round one. In the second half year the sheep and the cat are rapidly completed. This system is said to be very time-saving, and covers a wide field. The second half-year's work, while revising the ruminant and the carnivore, subtly emphasises the cow and the dog, at present the two most important animals.

A word must be said about the universal excellent system of extending pathology formally into the final two years. In the second pre-clinical year, students are taught mainly from gross specimens carried in from the *post-mortem* room. The same students in the clinical years spend some weeks as members of teams conducting *post mortems* and taking charge of the routine examinations (*e.g.*, faeces, blood, urine, pus) in the clinical pathology laboratory. Although the clinical staff often attend these *post mortems*, they are the responsibility of the pathology department, and the teaching thread is thus not broken. Better still, it is carried on side by side with the true clinical work.

One surprising weakness of these courses lies in food hygiene and meat inspection. The impression somehow gained in Britain that Americans are very strong on the subject is unjustified, and indeed perhaps the reverse applies.

Examinations

The one truly astonishing aspect of American veterinary education is that the word "examination" is seldom heard or even seen in print. An idea has already been offered of the formulation of values of courses and the system of grading students throughout the year. To complete the D.V.M. a student must, on the one hand, year by year total up a defined minimum number of course unit values, some of which are required and some elective, and on the other be graded at an acceptable level in each and every course. It is true that end of term or year papers are sometimes required, but they rate far less than the grade points. The only formal examination in the whole system which involves examiners, other than the teachers, is the examination by the State Board, which is conducted after graduation on application to practice in a particular State.

The writer is of the opinion that sole reliance on the grading system is a serious weakness in the fabric of American education for, whilst it has the undoubted advantage of keeping the student on his toes week by week during the year, it appears to suffer from the following failings:—

(i) The lack of external examiners may fail to keep teachers up to the mark and might permit a teacher to discriminate against an individual with whom he is out of sympathy. As regards the last point, a tedious escape system of appeal exists.

(ii) It seems possible that in the weekly test-and-grade system the tendency must be to examine on the previous week's work mainly, and thus a student who took the easy way of keeping himself well informed on the week's work but not the year's might still do very well without fully appreciating the subject. Again the writer fancies he observed a tendency creeping in here and there to conduct these tests in the form of groups of questions or statements, one of which only is correct with a request to tick that one. If any attention at all is paid to the week's work, this must be incredibly easy.

(iii) Unless some sort of fairly searching examination system occurs at the end of the year the obligation to revise and appreciate the whole subject does not exist at all, and a student's permanent knowledge is never examined.

It has been argued that the State Board examination takes care of all this; but does it? In the first place it is surely anomalous for the D.V.M. to be awarded before the key examination occurs. Secondly, can this examination in all States at all times cover the whole field of knowledge uniformly and at the same standard as long as examinations and examiners are particular to each State? Apparently not, for one State has been cited as irrespectively failing all candidates until a vacancy for practice occurs in that State, and if this is so, no reason seems to exist why an unsuccessful candidate in such an examination may not pass in an examination held by a State that urgently needs veterinarians. It appears that the effort on the part of the A.V.M.A. to introduce country-wide standard state examinations with central examiners is most praiseworthy and over-due. But even if this endeavour is successful the award of the D.V.M. should succeed, not precede, this examination. The writer believes that the American system would gain the best of both worlds, if the grading system were retained, but had superimposed on it the formal yearly examination with external examiners as used in Britain. It is of course quite clear that, for mechanical reasons, the conduct by the same examiners of formal examinations more or less simultaneously at 19 schools would be expensive and very difficult. The solution may lie in either regional boards of examiners or in the systems proposed by the A.V.M.A. for the conduct of the country-wide State Board examination.

Research and Post-graduate Work

Members of the various departments of all schools spend a variable amount of time on research. In some cases, depending on the intention of the appointment, the amount of teaching will be small and confined to, say, one term of the year, and the amount of research considerable. But elsewhere in departments such as the clinics, the staff may have very little time for research. Nevertheless, in sum total the schools seem to carry out a large share of the veterinary research of the country either on their own, in conjunction with regional laboratories, and in State research programmes.

Nearly all schools have graduate divisions and offer facilities for graduate work, and it is well to note here that Americans use the word "graduate" to mean post-graduate in the sense used in Britain. Some schools, such as that at Davis (Calif.) grew up from a research background and, as all graduate work includes research, they seem particularly fitted for this kind of education. None the less it is difficult, in the space available, to advise as to which department of which school offers the facilities of choice for any particular field of graduate work. This must depend partly on the results of enquiry and recommendation, and partly on individual preferences.

Apart from the possibility of visiting a school on an informal basis to observe some aspect of the work during which time permission might be given for the visitor to attend a course of one sort or another, graduate work is exclusively formal and leads either to a Master's or Doctor's degree. It is open to native and foreign graduates alike holding a Bachelor's degree held to be equivalent to that offered by the school in question. The time required for the Master's degree is usually one year, and for the Doctor's three. Although the graduate student works under the day-to-day supervision of some member of the department in which he is majoring, graduate advisers are appointed to evaluate the student's requirements, examine his thesis proposals, recommend on patterns of study, which are fairly flexible, direct and criticise his work, and finally examine the completed thesis and the student.

The writer gained the impression that most schools regard graduate work as an important part of their function, and that after a searching enquiry into a candidate's capacities they make a serious attempt to supplement his weaknesses and foster his strengths. At this level, at least, they attempt to convert great technical ability into the wisdom of the creative thinker.

Conclusion

The purpose of this study of American veterinary education was to learn, not to criticise, but it is not possible to appreciate without comparing, and if this review seems at times critical, the intention is not destructive. It is fully realised that the American background is very different from the British, and that American educationalists have to solve their own problems and develop their own traditions against this background in their own way. They cannot change, even if it seemed desirable, they can only progress, and this they are doing in a manner that cannot fail to satisfy the most critical. Outstanding novelties are the intense practical approach to teaching, the recitational method of teaching, the new approaches to teaching anatomy, the use of visual aids, the immense instructional value of the clinics, especially the ambulatory clinics, and the methods of construction of their newer buildings.

THE SIR FREDERICK SMITH AND MISS ALEEN CUST RESEARCH FELLOWSHIP

Applications are invited for a Fellowship, value £600 per annum, to enable the holder to pursue research or to prepare for such research in any branch of veterinary science. Candidates, who need not be veterinary surgeons, will normally be required to have obtained some post-graduate experience, but this is not essential. The Fellowship is tenable for a maximum period of three years. Forms of application and copies of the Regulations may be obtained from the Registrar, The Royal College of Veterinary Surgeons, 9, Red Lion Square, London, W.C.1, to whom completed forms should be returned by May 15th, 1956.

FIG. 1A.—Upwards luxation of hip (before reduction).

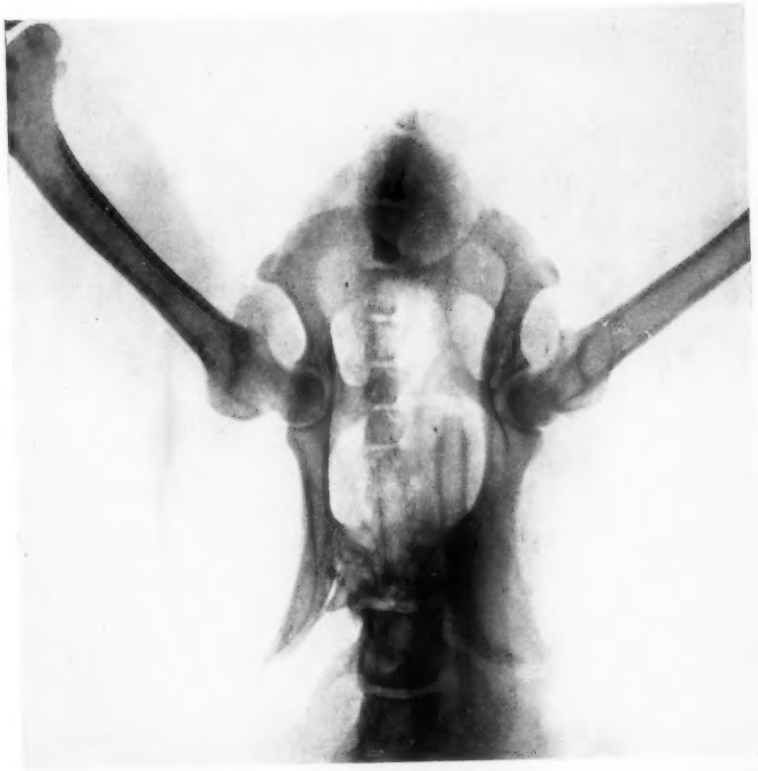

FIG. 1B.—Upwards luxation of hip (after reduction).

FIG. 6A.—Upwards and forwards luxation (before reduction).

FIG. 6B.—Upwards and forwards luxation (after reduction).

Dislocation of the Hip in the Dog

BY
R. W. J. KNIGHT
Coventry

COXO-FEMORAL luxation is without doubt the most common dislocation met with in small-animal practice.

The depth of the acetabulum in the dog is such that a recent dislocation (without damage to the bony structure of the acetabulum or the head or neck of the femur), if once reduced correctly will remain in position in spite of complete rupture of all the ligaments concerned with retention of the femoral head in the acetabulum.

It may be that other factors, apart from the depth of the acetabulum, assist in maintaining the replaced head of the femur in its proper place, but it is our experience that a recent dislocation quickly reduced needs no supportive treatment to assist in maintaining the head of the femur in position.

It is the rule, subject to rare exceptions, that dogs with completely ossified bones are the only ones that sustain the injury. Trauma which would produce a coxo-femoral luxation in an older dog will fracture the neck of the femur in a young dog under the age of about six months.

The nature of the trauma is interesting, and is surprisingly constant. The injury appears to be always caused by a motor car. There is only a mere bumping, and the dislocation is nearly always found as the only injury. Cuts and grazes are noticeably absent.

On several occasions I have had a small dog presented, and have been told it was bowled over by some enormous dog, being unable thereafter to put its hind leg to the ground. On first examining such a dog there is, clinically, every appearance of dislocated hip, but in every case I have so far encountered the injury, when X-rayed, has been shown as a fractured neck of the femur. The dislocation is nearly always upwards and forwards, occasionally upwards only, and backwards rarely. Personally I have not yet encountered a case of backwards luxation, nor seen a radiograph of one, but they are described in the literature (Schroeder, 1933; Dibbell, 1934; Bottarelli, 1940; Schnelle, 1945).

Stader (1936) has classified coxo-femoral luxation of three types:—

1. Recent cases which are easily reduced, snap into place, and are not easily redislocated. These cases are said to require no further treatment.

2. Recent cases, easily reduced, no snap on reduction, and which tend to redislocate with some rotation of the limb. In these cases further treatment consists of bandaging the extremity in extreme flexion.

3. Cases which redislocate after reduction: there is possibly severe damage to the acetabulum and some fillings, perhaps, of the socket.

Diagnosis

This is relatively easy by careful examination, and quite certain by radiography. For those without facilities for radiography the shortening of the affected leg, and the due prominence of the trochanter major, which is displaced laterally, are points of importance, although similar findings are present with a fractured femoral neck.

In cases of doubt, if the dog is anaesthetised the simple tests suggested by Dibbell are excellent. They are:—

1. When the dog is placed on its back and the two hind legs are grasped by the tarsi, brought together and held up over the body, the dislocated leg is shorter.

2. When the hind legs are extended auteriorly the dislocated leg is longer.

3. When the hind legs are extended posteriorly the dislocated leg is shorter.

The last method can be cautiously tried with the dog standing up, without the use of an anaesthetic, and in most cases is quite sufficient.

Radiography is, of course, the method of choice, and confusion may only arise, and then only in inexperienced operators, if the luxation is a dorsal one and the radiograph was taken whilst the dog was unaesthetised and somewhat rigid. Such a picture is shown in Fig. 1A.

Method of Reduction

Reduction of a coxo-femoral luxation can be accomplished with little effort in every case where reduction is possible. In old cases where the depth of the acetabulum is obliterated by granulation tissue, or where there is bony damage to the acetabulum, open reduction may be the only method of returning the head of the femur to its correct place. It is interesting that unreduced luxations after several months form an adventitious articulation where the head of the femur rests, and in some cases the dog seems to be sound, although an undue prominence in the appropriate region can always be detected, and the leg remains shorter.

The method of reduction is as follows. The dog is anaesthetised to obtain relaxation and unconsciousness. Short and long acting barbiturates are used, but in view of the speed of reduction thiopentone sodium is ideal, and preferable to thiopentone sodium in my opinion.

Once anaesthetised the only equipment required is a calving rope with a spliced loop at either end. A slip knot is fashioned at one end and placed above the hock, and the other end is similarly looped and placed above the other hock (Fig. 2). The dog is next carried and suspended from a hook or door (Fig. 3). The operator grasps the dog in the stifle region and raises it six or eight inches (Fig. 4) then dropping it (Fig. 5) the same distance. The luxation is reduced by the dog's own weight.

The technique is so simple, and yet so effective, that I am of the opinion that the direction and weight

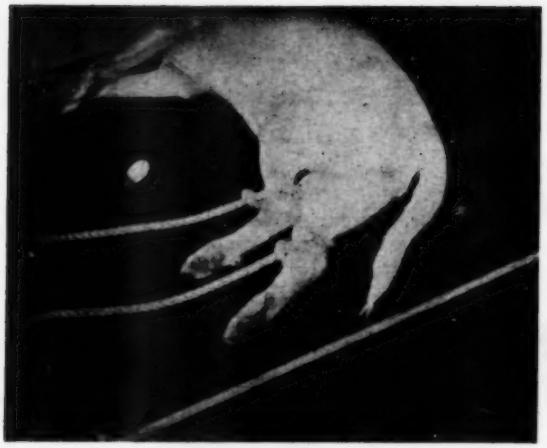

FIG. 2.

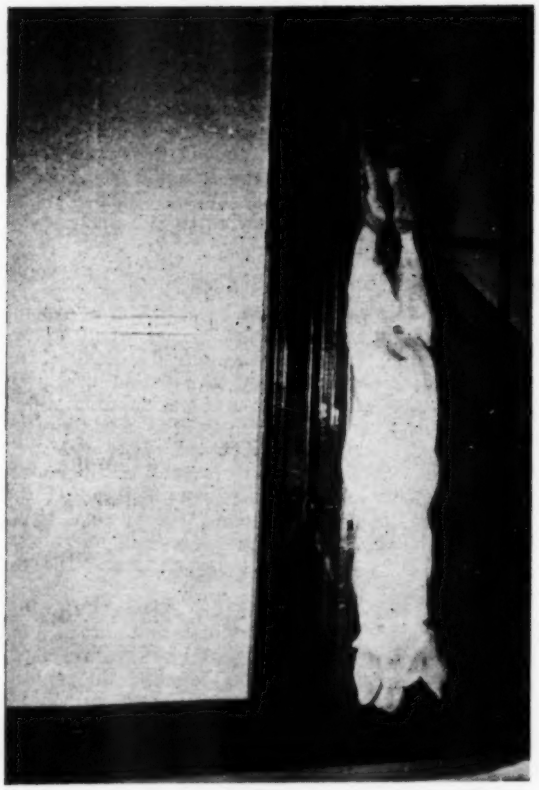

FIG. 3.

of pull applied in this manner is the correct one. The longest part of the procedure is anaesthetising the dog, the actual reduction taking only a few seconds. Reduction is effected with speed, without any manipulation or infliction of further trauma on the injured area. In ten years I have suffered no untoward sequelae such as causing any accidental injury to the dog during this operation.

FIG. 4.

FIG. 5.

The two sets of radiographs selected illustrate the correct reduction of the luxation obtained by this method. Figs. 1 and 1A show a typical example of an upwards luxation. Figs. 6A and 6B show the normal type of upwards and forwards luxation and reduction. I have not seen a case of posterior luxation, and that is probably fortunate, as this method could not be applied, and the traction and manipulation method would have to be resorted to.

Summary

The description and diagnosis of luxated hip in the dog is briefly described, together with a new, simple and effective method of reduction of this common dislocation.

References

BOTTARELLI, A. (1983). *La Clin. Vet.* **61.** 407-22, from *N. Amer. Vet.* **21.** (1940). 428-9.
DIBBELL, E. B. (1934). *N. Amer. Vet.* **15.** 37-9.
SCHNELLE, G. B. (1945). *N. Amer. Vet. Inc. Canine Radiography*, 48-56.
SCHROEDER, E. F. (1933). *N. Amer. Vet.* **14.** 32-7.
STADER, O. (1936). *Ibid.* **17.** 44-5.

Annotation

The Control of Rabies. Leading Article in *The British Medical Journal*, March 3rd, 1956, pp. 500-501.

This article opens with a vivid description of what happened in the village of Sahané in Iran when a rabid wolf ran amok for five hours before being killed by a man on horseback with a farm implement. As a result of this reign of terror there were 29 human victims. Fortunately it was comparatively easy to convey the victims to Teheran where thanks to the World Health Organisation facilities were available immediately to deal with just such an emergency.

Two workers at the Pasteur Institute in Teheran have already recorded that the mortality from rabies after wolf bites is about 60 per cent. in untreated victims. When treated with vaccine alone the mortality at Teheran has been reduced to 18.5 per cent. for all cases and to 28 per cent. for those bitten on the head.

Of the 29 victims from Sahané 11 were bitten only on the limbs or trunk, and all of them recovered whether given vaccine only or serum in addition. Of the 18 with head wounds, five were given vaccine only for 21 days and three died, the remaining 13 were given serum only and one died, and he was in a group receiving only a single dose of serum. Five were given serum on the fifth as well as the first day and all recovered. One remarkable patient was a boy of six with a crushed skull and torn dura mater, who was showing signs of meningitis on admission. His treatment consisted of penicillin, six doses of serum and a course of vaccine spread over three weeks. He recovered!

In order that the value of serum and vaccine therapy could be more accurately assessed, arrangements had been made for titrating antibody in the serum taken daily from patients treated in different ways. These titrations were done in the U.S.A. In those patients treated with daily vaccine only, no antibody appeared in the blood until the 19th day or later. On the other hand, in those also given serum it was present from the outset and persisted well, especially in those given two doses. These results, even though the different groups of cases are too small for recovery rates to be strictly significant, should, it is stated, go far to place combined treatment with vaccine and serum on an assured footing.

It was in April 1950 that the World Health Organisation decided that a trial of hyper-immune serum such as that described should be conducted in Iran. At the same session it was also decided that the antigenic potency of vaccines should be standardised and that attention should be directed to more extensive control of rabies in animals, including the immunisation of dogs with a vaccine made from the egg-adapted Flury strain.

The 1954 technical report on rabies by the World Health Organisation, published before the Sahané disaster, reported the results of antibody titrations in subjects not exposed to the danger of infection. These showed what in fact was confirmed at Sahané —that antibody after vaccine alone does not appear for 14 days or more and that serum bridges the gap without interfering with the active response. This report also contains an account of the strikingly successful results of mass vaccination of dogs with chick-embryo vaccine in Israel and Malaya.

The leading article concludes with a review of the measures available to control the wild vectors of rabies. Reports of the efficacy of mass vaccination of dogs have come from Austria, Israel, Malaya, and Southern Rhodesia. In Latin America where the vector is the vampire bat, the solution lies in the destruction of bats and the vaccination of cattle. In Canada there has been an unprecedented epidemic of rabies amongst foxes, wolves and other wild animals, and the chief aim is to reduce the numbers of these animals and impede spread of the disease. In Israel and Southern Rhodesia it has been necessary to try to reduce the numbers of jackals by poison and other means.

Finally, the article reviews the value of local treatment of bites. This can be summarised by saying that the local use of caustics and antiseptics by no means removes the need for immunisation.

Well-directed and vigorous measures with hyper-immune serum and vaccine offer a substantial measure of protection against this terrible disease in those who have been bitten by rabid animals.

Though some measure of success has attended attempts to deal with the wild vectors of rabies, the results quoted from various parts of the world leave no possible shadow of doubt that the only policy in Great Britain is to exclude all possibility of the disease being introduced. This can only be done by the rigorous application of quarantine measures.

G. F. B.

REVIEW

The Feeding of Dairy Cows—Ministry Bulletin No. 42. Published by H.M.S.O., price 2s. 6d.

This bulletin should prove very useful to the practical man as the basic principles of the feeding of dairy cows are here set out in plainer fashion than in the more comprehensive bulletin, *Rations for Livestock*.

The first section gives a straightforward account of the dietary needs of dairy cows, with explanations of such terms as digestibility, maintenance and production ration, starch equivalent and protein equivalent. Then follows a section on factors other than nutritive value which must be taken into account when drawing up rations, including bulk, palatability and cost. An outline of the common cattle foods available and their value, and a guide to accurate rationing by weight, especially of bulky foods, precedes a special section on the feeding of the dry cow, a necessary reminder of the needs of this class of stock.

The ground is well prepared for the section on the feeding of cows in milk, where a number of specimen rations are given, for both maintenance and production. The special needs of high yielders and producers of high butterfat milk are mentioned, and the problems of summer feeding are dealt with, briefly.

News and Comment

THE DUKE OF EDINBURGH AT PIRBRIGHT

The Duke of Edinburgh paid a private visit to the Research Institute (Animal Virus Diseases), Pirbright, Surrey, on the afternoon of Tuesday, April 10th, 1956, and saw the results of recent research on foot-and-mouth disease. He was welcomed by Mr. S. W. Cheveley, O.B.E., Chairman of the Governing Body, and Dr. Ian A. Galloway, Director of the institute. The chairman presented members of the Governing Body including the Association's Senior Vice-President, Professor Robertson, the Chief Veterinary Officer, Mr. J. N. Ritchie, Mr. Glover, Principal of the Royal Veterinary College, and Professor Beveridge of Cambridge.

The visit of His Royal Highness to Pirbright marks the approaching completion of the Institute's three-year building and development scheme. The accommodation for farm animals in conditions of isolation has been doubled, and the facilities for work on small experimental animals trebled. Tnere are also extensive new laboratories, a pilot plant for large scale vaccine production, and many new ancillary services.

During his tour of the laboratories the Duke was shown various aspects of the work of the Institute. On a world map giving the distribution of the different types of the virus, he was able to see the results of surveys made by the Institute during the past eight years. Of the seven known types of the virus now recognised, four have been discovered as a result of work at Pirbright. The importance of these findings in relation to control of the disease has now led to a proposal by the international organisations concerned that Pirbright should be recognised as the Central Reference Laboratory for the systematic examination and classification of the strains of the virus.

The growth of the virus in living cells outside the animal body plays an important part both in the study of the infective process and in the production of virus from which vaccine can be made. His' Royal Highness was shown a film of a cell from the tongue of an ox in the process of being attacked by the virus and a sheet of growing kidney cells on which points of cell destruction by the virus enabled counts of infective particles to be made. At the other end of the scale he was shown large stainless steel tanks in which the surface layers of 400 tongues received direct from the abattoir could be used for the cultivation of the virus on a scale suitable for vaccine production.

Before departing, His Royal Highness accepted a handsomely bound volume of the publications of the Institute, and had tea with the Governors and senior members of the staff during which he had an opportunity of meeting representatives of the architects, consulting engineers and contractors responsible for the new buildings. He returned later by helicopter to Windsor Castle.

UNIVERSITY NEWS

London

The following changes in the teaching staff at the Royal Veterinary College are announced:—

Mr. Harrop, M.R.C.V.S., formerly lecturer in veterinary hygiene, has been appointed to a senior lectureship in that subject.

Mr. J. E. Beach, M.R.C.V.S., has been appointed an assistant lecturer in pathology.

Mr. B. K. Fenton, M.R.C.V.S., has been appointed an assistant lecturer in surgery.

Dr. D. W. B. Sainsbury, PH.D., B.SC., M.R.C.V.S., lecturer in veterinary hygiene, has resigned his appointment to take up a university demonstratorship in animal health at Cambridge.

Mrs. L. C. Booker, M.R.C.V.S., has resigned her appointment as assistant lecturer in surgery.

Edinburgh

In the recent Examinations held by the University of Edinburgh, the following passed Part I of the Examination for the Diploma in Tropical Veterinary Medicine:—

R. J. Campbell, B.SC., M.R.C.V.S.; J. B. Condy, M.R.C.V.S.; W. Ferguson, M.R.C.V.S.; D. C. Hague, M.R.C.V.S.; J. A. Hammond, M.R.C.V.S., D.V.S.M.; R. N. Hazarika, G.V.SC.; C. E. Louisy, D.V.M.; A. M. Mackie, M.R.C.V.S.; Miss Heather Martin, M.R.C.V.S.; L. S. Pfob, M.R.C.V.S.; A. Rashid, M.R.C.V.S.; J. D. Rennie, B.SC., M.R.C.V.S.; C. C. Renwick, M.R.C.V.S.; J. G. Tremlett, M.R.C.V.S.

THE ASSOCIATION OF VETERINARY STUDENTS

Glasgow University Veterinary School welcomed some 180 delegates, representing the six other veterinary schools of Great Britain and Ireland, to the Annual Conference of the Association of Veterinary Students. Three students from the veterinary school at Brussels attended also.

In a witty speech, Dr. T. J. Honeyman, Rector of the University, officially opened the conference on the morning of Saturday, February 18th, and delegates were welcomed by Professor W. L. Weipers, Director of Veterinary Studies.

Mr. H. M. Wilson, of Cupar, Fife, read a paper entitled " The Veterinary Graduate in General Practice "; Mr. D. Banks (Cambridge), President of the A.V.S., was in the chair. This paper was a sequel to papers on the veterinary graduate in industry and research, read at previous conferences. Mr. Wilson stressed the importance of the practitioner as the backbone of the profession, and said that public reaction was decided by the behaviour and ability of the practitioner.

The weather, unfortunately, marred some of the sporting activities, and several games had to be cancelled. Only one rugby football match could be played, in which Glasgow beat Liverpool, 24 points to nil. Two association football matches were played, in which Edinburgh beat Glasgow four goals to nil,

and Dublin beat a scratch Bristol side. Every college entered a table tennis team; Glasgow retained the cup by beating Edinburgh three matches to nil in the final.

A tour of the almost completed veterinary hospital on the Garscube estate was arranged, the various departments providing demonstrations of the work on which they were engaged.

On the following morning, Mr. E. C. Pickering (Vice-President of the A.V.S.) read a paper, "The Physiology of the Ruminant Stomach." Delegates turned their minds to more aesthetic matters on Sunday afternoon when three coach loads went on a tour of the "Three Lochs." In the evening there was a debate, "That this house considers that the welfare of domestic animals has suffered since Hadrian's wall fell into disrepair"; notable contributions to a lively discussion came from Dublin!

On Monday morning, Dr. Lane-Petter, Director of the Laboratory Animals Bureau, read a paper, "Animals and Medical Research," in which he traced the history of animal experimentation in research. He stressed the value to veterinary and medical science of animal experiments, and spoke of the provisions laid down for their welfare by various Acts.

At the Annual General Meeting immediately following this paper, Mr. D. Banks (Cambridge), the retiring President, formally thanked the Glasgow School for the organisation of the conference, and handed over his duties to the new President, Mr. E. C. Pickering, of Glasgow.

After lunch, the association football final between Edinburgh and Dublin ended in a one-all draw.

Once again the conference illustrated the importance of the A.V.S., in that it gives a chance for veterinary students, whose purpose in life is essentially the same, to meet and exchange ideas, and to form friendships, some of which will be continued in later years.

SECOND WORLD CONGRESS ON FERTILITY AND STERILITY

The second World Congress on Fertility and Sterility will take place in Naples on May 18th to 26th. Scientists from most European countries, from America, and from the Dominions will read papers or take part in discussions. There will be two Sections (XIV and XV) on problems in animal reproduction, and a lecture, Biological Aspects of Infertility in Male Domestic Animals, by Professor Nils Lagerlöf. A round table discussion on Problems in Animal Reproduction will be held under the chairmanship of Moderator Professor T. Bonadonna.

The subscription fee for full membership will be $25, and for associate membership $15. Fees should be sent to the President of the organising committee, Professor Giuseppe Tesauro, Clinica Ostetrica e Ginecologica, Via S. Andrea delle Dame, 19, Naples, from whom further information may be obtained.

FOOT-AND-MOUTH DISEASE

Restrictions on the movement and marketing of livestock in the Infected Areas in Dorset and Somerset have been withdrawn as from April 4th, 1956. The country is now free from Infected Areas.

The six recent outbreaks involved the slaughter of 680 cattle and 496 pigs.

ROYAL SOCIETY OF HEALTH CONGRESS

For members of the profession who are attending the Veterinary Section of the Royal Society of Health's annual Congress, unofficial luncheon is being arranged at the Casino Restaurant, South Shore, Blackpool on April 24th at 12.30 p.m. Those who wish to have places reserved for luncheon are asked to write to Mrs. K. G. R. Kelly, Weatherstones, Neston, Cheshire. Car-parking facilities are available.

UNITED KINGDOM COMMITTEE FOR WORLD HEALTH ORGANISATION

Mr. H. E. Bywater and Dr. W. R. Wooldridge were elected to serve on the Executive Board of this Committee at its annual general meeting held on April 7th. They will represent the B.V.A. and the R.C.V.S. respectively. This is Dr. Wooldridge's second term of office.

PERSONAL

Births

WARREN.—On March 21st, 1956, to Dorothy, wife of Anthony L. Warren, M.R.C.V.S., of 3, Park Road, Ramsgate, Kent, a son, Gerard Christian, brother for Mark Anthony.

WATT.—On March 12th, 1956, to Betty, wife of David J. Watt, B.SC., M.R.C.V.S., of 24, Banbury Road, Brackley, Northants, a daughter, Susan Jane.

Marriage

BLANCHARD—HELME.—At St. Mary's, Burghill, Hereford, on April 3rd, 1956, John Harley Blanchard, M.R.C.V.S., D.V.S.M. (Vict.), Leominster, Hereford, to Diana Medlicott Helme, of Tillington, Hereford.

R.C.V.S. OBITUARY

We record with regret the death of the following members of the profession:—

LAMBERT, Robert Hamilton, M.R.C.V.S., 47, South Richmond Street, Dublin. Graduated Edinburgh, May 21st, 1898. Died March 24th, 1956, aged 81 years.

TURNER, Philip Robert (Capt. late R.A.V.C.), Meadowcroft, Horringer, Bury St. Edmunds, Suffolk. Graduated London, July 7th, 1915. Died March 25th, 1956.

Mr. Turner was for many years a member of the Eastern Counties Veterinary Society of which he was a past President and an Honorary Member.

MAJOR R. G. ANDERSON

Major R. G. Anderson, O.B.E., T.D., F.R.C.V.S., whose death on March 18th was recorded on March 31st, was a noted figure in Fife, where for many years he was veterinary inspector. Before his appointment to that post in 1928, he had been in practice in Cupar for more than 20 years. He graduated from Glasgow in 1897, saw service in the South African war, and again in the first World War when he became Assistant Director of Veterinary Services to the 66th (East Lancs) Division. In 1918 he was mentioned in despatches, and was awarded the O.B.E. in the same year. After demobilisation he became chief veterinary

officer to all Territorial units north of the Forth of Clyde.

For 12 years he was a member of the Cupar town council, and served also on the Bench. Later he removed to Kirkcaldy where he will be very much missed by a wide circle of friends.

COMING EVENTS

April

18th (Wed.). Meeting of the Lancashire Division, B.V.A., at the University of Liverpool Veterinary Field Station, Neston, Wirral, 12 noon.

Spring Meeting of the Eastern Counties Division, B.V.A., in the museum of the Norfolk and Norwich Hospital, 8 p.m.

19th (Thurs.). Ninth Ordinary Meeting of the Southern Region of the A.V.T. and R.W's. at the Royal Veterinary College, London, N.W.1.

General Meeting of the Herts and Beds Division, B.V.A., at 70, Holywell Hill, St. Albans, 7.30 p.m.

20th (Fri.). Meeting of the Mid-West Division, B.V.A., at the Berkeley Café, Clifton, at 2.30 p.m.

26th (Thurs.). Meeting of the Essex Division, B.V.A., in the Essex Institute of Agriculture, Writtle, Essex, at 7.30 p.m.

May

4th (Fri.). Annual Ball of the Royal Veterinary College Students' Union Society at the Criterion Restaurant, 9 p.m. Tickets: £3 3s. each from the Social Secretary.

5th (Sat.). Annual General Meeting of the Association of State Veterinary Officers in the auditorium of the Wellcome Research Institution, 183-193, Euston Road, N.W.1, 4 p.m.

10th (Thurs.). General Meeting of the Society of Women Veterinary Surgeons in the Veterinary School of the University of Cambridge, 11.30 a.m.

16th (Wed.). Annual General Meeting of the Scottish Regional Group of the A.V.T. and R.W's. in the University of Glasgow Veterinary Hospital, Bearsden Road, Bearsden, 2.15 p.m.

September

16th to 22nd (Sun. to Sat.). 74th B.V.A. Annual Congress at Royal Leamington Spa.

ADDRESSES OF DISEASE INFECTED PREMISES

The list given below indicates, first the county in which are situated the premises on which disease has been confirmed, followed by the postal address and date of outbreak.

Anthrax

Ches. Elm Tree Farm, Elworth, Sandbach (Apr. 4).

Cumberland. Row Head, Ousby, Penrith (Apr. 4).

Derby. Dunston Farm, Newbold, Chesterfield (Apr. 4).

Durham. Hope House Farm, Heighington, Darlington; Dent Gate Farm, Langleydale, Barnard Castle; Houghall Farm, St. Oswalds (Apr. 4); Headlam Hall, Headlam, Gainford, Darlington (Apr. 5); Maiden Law Farm, Lanchester (Apr. 6); Hilton Close, Ingleton, Darlington (Apr. 9).

Gloucs. Bagendon House, Bagendon, Cirencester (Apr. 9).

Lancs. Eaves Cottage Farm, Woodplumpton, Preston (Apr. 5).

Leics. Home Farm, Elmsthorpe; Dob Hall Farm, Little Stretton (Apr. 4); Holton Farm, North Kibworth, Rugby (Apr. 5); Peacock Farm, Muston, Bottesford (Apr. 9).

Lincs. Populars Farm, Holland Fen; Church Farm, Fishtoft, Boston (Apr. 4); Hurns End, Old Leake, Boston (Apr. 5); Baxters Yard, Hubberts Bridge, Boston; Ings Farm, Carr Road, North Kelsey (Apr. 9).

Norfolk. Batesmoor Farm, Foulsham, Dereham (Apr. 4).

Northampton. Jugsholme Farm, East Farndon (Apr. 5); Orchard Hill, Little Billing (Apr. 7).

Northumberland. Spital Shield Farm, Hexham (Apr. 9).

Notts. Coneries Farm, Toton, Beeston (Apr. 4).

Oxford. New House Farm, Ducklington, Witney (Apr. 5).

Perth. Johnshill Farm, Alyth (Apr. 6).

Renfrew. Monkland Farm, Kilbarchan (Apr. 5).

Salop. Kinnersley Manor, Wellington (Apr. 9).

Staffs. Ilam Tops Farm, Ilam, Ashbourne; Chantry Farm, Hoar Cross, Burton-on-Trent (Apr. 4); Cow Hay Farm, Leek (Apr. 6); Drayton Bassett, Tamworth; Malt House Farm, Dilhorne, Stoke-on-Trent (Apr. 7).

Warwicks. Attleborough Fields Farm, Attleborough, Nuneaton (Apr. 4); Convent Farm, Baddesley Clinton, Knowle, Birmingham (Apr. 6).

Westmorland. Fawcett Mill Farm, Gaisgill, Tebay, Penrith (Apr. 9).

Wilts. Lower House Farm, Sedgehill, East Knoyle, Salisbury (Apr. 4).

Yorks. Park Farm, Winestead, Hull; Hall Farm, High Catton; Woodlands Farm, Scarborough; Bielby, York (Apr. 4); Sycamore Farm, Church Fenton, Tadcaster (Apr. 5); Kirkella Grange Farm, Hull (Apr. 6); Oak Tree Farm, Well, Bedale (Apr. 7); Colburn Grange, Catterick Camp; Howden Road, Holme on Spalding Moor (Apr. 9).

Fowl Pest

Bucks. Bryndale, Rawlings Lane, Seer Green, Beaconsfield (Apr. 5); Widmor Farm, Seer Green, Beaconsfield (Apr. 9).

Ches. Little Barrow Hall, Barrow, Chester; Lumb Lane, Bramhall, Stockport (Apr. 3); Station Farm, Barrow, Chester (Apr. 7).

Flints. Millbrook Farm, Bangor-on-Dee, Wrexham (Apr. 6).

Hants. Kingswood, Winchester Road, Fair Oak, Eastleigh (Apr. 7).

Lancs. Premises at rear of 22, Hareshill Road, Birch, Heywood (Apr. 6).

Lincs. Highfield House, Messingham Lane, Scawby, Brigg (Apr. 5).

Staffs. Stadacona House, Stafford Road, Standeford (Apr. 3).

Swine Fever

Berks. Plot 66, Golf Links Allotments, Reading; Bell Farm, Bell Foundry Lane, Wokingham (Apr. 4).

Cambs. 55, Southwell Road, Wisbech (Apr. 9).

Caernarvon. Gwen Lleyn Farm, Llannor Pwllheli (Apr. 4).

Dorset. Marsh Muir, Moorside, Marnhull, Sturminster Newton (Apr. 3); Courtwood Farm, Broadwindsor, Beaminster (Apr. 7).

Essex. The Retreat, Oak Road, Crays Hill, Billericay (Apr. 3).

Hants. Wildern Estate, Wildern Lane, Hedge End, Southampton (Apr. 5).

Lincs. 5, Old Brumby Street, Scunthorpe (Apr. 3); Lymn Bank Farm, Thorpe St. Peter, Wainfleet, Skegness (Apr. 6).

Middx. Thyrne Lodge, Green Lane, Chertsey Lane, Staines (Apr 3); 10, Smallholdings, Clockhouse Lane, Ashford (Apr. 7).

Norfolk. Eastland Bank, Wingland, Terrington St. Clements, Kings Lynn (Apr. 6).

Suffolk. Vale Farm, Ufford, Woodbridge (Apr. 4); Aldersfield Hall, Wickhambrook, Newmarket (Apr. 9).

Surrey. Windyridge, Old Guildford Road, Frimley Green (Apr. 4).

Yorks. Heights House, Kilpin Hill Lane, Heckmondwike (Apr. 5); Rawhill Farm, Langsett Penistone, Sheffield; High Gardham, Cherry Burton, Beverley (Apr. 9).

CORRESPONDENCE

The views expressed in letters addressed to the Editor represent the personal opinions of the writer only and their publication does not imply endorsement by the B.V.A.

The Growth of Free Clinics

Sir,—Mr. Randle calls attention in your issue of March 10th to the necessity for action to be taken on behalf of the profession, with regard to the clinics run by certain animal welfare societies.

One of the main objections to these clinics is that, in some clinics at least, no real attempt seems to be made to find out whether a person can or cannot afford to pay for veterinary treatment. It appears that those in charge consider their responsibility in this direction ended once they have asked the pet owner to " sign the book."

It is obvious, even in theory, that this system would be a failure, and this is borne out by practical experience. I have kept a record, as a matter of interest, of some of those pet owners who have been to charitable clinics and who subsequently have decided to consult a veterinary surgeon in private practice. The majority agreed that they signed their names in a book, but a high proportion said they were quite unaware they had given an undertaking that they could not afford to pay fees. Very few knew that in many clinics, animals were not treated by veterinary surgeons. They thought the clinics were " like the health service " and that veterinary surgeons were " the specialists to give the inoculations against distemper."

One client had two dogs vaccinated against distemper, and while discharging my fee remarked that she " always took them to the van to have their ears cleaned!"

No reasonable person objects to competition, but it is very difficult to compete with widespread advertising, free treatment, and ignorance on the part of the general public regarding our profession.

It is time that our public relations officers came out of their shells and gave our side of the question. So long as the profession stands by and says nothing while pet owners are subjected to a constant stream of propaganda, jumble sales, whist drives, and flag days, backed up by sentimental photographs and paragraphs in the local press every time a parrot's leg is put in plaster, so long will these welfare societies expand in grossly unfair competition with private practitioners.

Yours faithfully,
JOHN RHODES.

Hurst Lodge,
London Road,
Waterlooville.

March 19th, 1956.

Urethral Obstruction in a New-born Colt Foal

Sir,—I have read with interest Mr. Cosgrove's paper on " The Veterinary Surgeon and the New-born Foal " in THE RECORD of December 10th, 1955.

However, with regard to rupture of the bladder, I was surprised to see that there was no mention of urethral obstruction as a possible cause. Years ago, in Ireland, I was asked to see a half-bred colt foal which was some hours old, and suffering from what I presumed to be the retention of the meconium. Examination did not support this supposition very strongly, and no improvement followed the usual treatment. Instead, he became increasingly dejected, straining slightly and then lying quietly on his back for brief periods. There was no rolling. These symptoms certainly might have indicated a painfully distended bladder, but urethral obstruction in the new-born foal seemed most improbable to me at that time.

Eventually, rather than stare in a frustrated manner at this poor foal, and in deference to " the water " complex, I felt along the urethra. I was more than surprised to locate a definite solid mass situated well back in the urethra which moved freely along towards the orifice when pressure was applied to it. Soon a fibrinous-like plug, about ½ inch in length, was extruded and urine gushed forth instantaneously. The foal got to his feet and emptied his greatly distended bladder with abandon and obvious relief, after which he took an interest in his mother and had his first suck.

This fibrinous collection no doubt invaded the urethra from the bladder, possibly before birth. According to the owner the foal had passed no water, neither had he sucked, and he appeared to be unhappy when he was dropped.

A satisfying and very unusual case. In view of this experience one might be justified in suggesting that urethral obstruction, as well as being the most logical explanation, is the primary and principal cause of rupture of the bladder in the new-born colt foal.

Yours faithfully,

J. MULLINS.

Department of Agriculture,
P.O. Box 11,
Masterton,
New Zealand.

March 22nd, 1956.

Wounds in the Teats of Cows

Sir,—In THE VETERINARY RECORD of March 31st, Mr. Bell has stressed the difficulties associated with the suturing of cows' teats. Within recent weeks I have had occasion to open two teats of a heifer in order to explore the possibility of removing a severe obstruction at the base of the teats. Incisions of 5 cm. length were made longitudinally in the teats and continued through to the duct. Examination of the fibrinous mass showed that it was inoperable and the teats were closed again. Using braided nylon a Halsted type of suture was used, one branch of which was taken through submucosa so that there was inversion of the submucosa and eversion of the skin. Penicillin cerate was inserted into the teat. The wound healed by first intention and the sutures were removed seven days later.

It would appear therefore that the common failure of sutured teats to heal by first intention is associated almost entirely with the presence of milk on one side of the wound.

The type of suture described above was recommended by Gold (1943). It produces moderately successful results in teats from which there is a flow of milk, and gives better results than other types of sutures. Like Gold I have found the use of gut sutures in the mucous membrane leads invariably to failure.

Yours faithfully,

SYDNEY JENNINGS.

University of Glasgow Veterinary Hospital,
Bearsden,
Glasgow.

April 7th, 1956.

Reference

GOLD, T. N. (1943). *Vet. Rec.* **55**. 363.

The Use of Chlorpromazine Hydrochloride

Sir,—Much has been written about chlorpromazine hydrochloride recently, and many indications for its use have been given. I would like to add one case to that list which may be of interest.

The case was one of "choke" in a Friesian cow weighing approximately 800 lb. A piece of kale stalk was lodged in the thoracic portion of the oesophagus, and the usual symptoms ensued. I had to resort to the use of probang, and since the animal was of a particularly fractious nature the process was rendered more hazardous than usual, and it was almost impossible to keep a Drinkwater gag in the animal's mouth. As a result, 250 mg. of Largactil was administered intramuscularly, and 30 minutes allowed to elapse. The dosage was on the low side since the herd had been heavily infected with liver fluke, and it was fairly certain that there was liver damage in this particular animal. The sedation produced, however, was quite satisfactory, and rendered the application of a gag, the passing of the probang down the oesophagus, and the pushing of the obstructing body down into the rumen a comparatively simple matter.

Yours faithfully,

W. B. CARTMELL.

The Lower House,
Wickham,
Fareham,
Hants.

February 20th, 1956.

Milk Fever

Sir,—In connection with the article on milk fever in this week's VETERINARY RECORD, based on Professor Robertson's address to the North of Ireland Veterinary Association, some of my remarks on the matter were wrongly reported. In my experience I found where cows were treated firstly with air or oxygen, and on relapse again with oxygen, that they "faded out" before the inflation was completed. I never had this experience when, in case of relapse, the cow was re-inflated with air.

I should be interested to know if any of the older practitioners ever had similar experiences.

Yours faithfully,

GEORGE HOBSON.

Barraderry House,
Kiltegan,
Co. Wicklow.

March 31st, 1956

The Veterinary Record

Sir,—I must agree with Major Hamilton Kirk's comments on the content of THE VETERINARY RECORD. Like him, I have often read of new developments in the farming press before any mention has appeared in THE RECORD.

I should like to suggest that the Editorial Committee might from time to time commission articles which would survey recent developments in various aspects of veterinary science. These would be written specifically for the general practitioner.

Yours faithfully,

T. C. BATE.

Astley Cross,
Stourport-on-Severn,
Worcs.

April 7th, 1956.

[The Technical Development Committee has been giving attention for some time past to preparing surveys of recent advances in our knowledge, and the first survey will be published fairly shortly.—*Editor.*]